Session 3B: Marine Mammals and Birds

Questions & Answers

Patrick Gearin
Q: In terms of harbor porpoise, what is the status of their population? And also, with the gray whales, is there a specific age group that you found in the strandings?

Gearin: In answer to the first question on harbor porpoise, the status of the population along the west coast is not considered threatened or it's certainly not listed or considered threatened. In Washington State, the statewide population estimate is around 25,000 and we really don't have much information on trends—whether the population is increasing or decreasing at this point—but it hasn't reached the point like on the east coast where it's considered to be threatened or endangered. The question on the gray whales, one of the unusual [things] about the strandings that we looked at in Washington State was that they represented all different age and size classes of gray whales. Generally, when we find these strandings on the coast or on shore, they are usually sub-adults, small animals. And that was one of the things that was unusual about the last two years is that we're seeing all adult females, adult males, and of course some sub-adults. It's been speculated that what we are seeing now is the population is perhaps approaching, it's stabilizing, it's possibly approaching carrying capacity, and we might be seeing the affects of that now with density and dependent effects.

Question not recorded.

Gearin: Yes, that's a good question. There does seem to be some habituation that occurs. In fact, we tested that in 1997 where what we did was we put these pingers on all the nets in a certain area and left them on for the full season to see if, over time, you had a catch rate of harbor porpoise, and we did see an increase later on in catch rates. But the rates were still basically an 80 to 90% reduction in expected catch during that time period. So a lot of it depends on what type of fishery it is, how long the nets stay in an area, if nets, say in a drift net type fishery, if the nets are in different locations each day, there probably will be less of an effect there because the porpoise don't get a chance get use to the Sound. But in areas where you have set net fisheries, where the nets remain set in one location for a long period of time, you'd probably expect to find more problems with habituation in that area.

Q: You mentioned that you think gray whales maybe reaching their carrying capacity, our oceans used to support three populations so I'm questioning why we think that maybe this one population is nutritionally low when it seems that they would maybe move out and populate the areas where they used to be?

A: We have basically two stocks of gray whales that are recognized, the Eastern Pacific stock, which is the stock that we're dealing with here today, and the Western Pacific stock. And they are widely separated by area, and they are genetically distinct, so there seems to very little mixing between those two distinct populations. There used to be an Atlantic stock as well, but they're now extinct. So some of the population biologists—people that are the real experts in that area—suggest that what we are seeing by the plot of the population curve is that the growth appears to be slowing, and it's not known what the historical abundance of gray whales was but the signs are there to suggest that what we might be seeing is these density-dependent effects, higher mortality. But there is still a lot of unknown factors. There's been speculation that the food sources, the main feeding grounds up in the [??] Basin and the Bering Sea has been depleted so that certainly could play a part. It's really unknown at this point, but we're trying to keep an eye on this mortality coast-wide over the next four or five years to see what's going to happen.

Glenn Vanblaricom
Statement: I would like to interject a little positive note here. I think it's incredible that we've had such a successful re-introduction of a marine mammal and that it has expanded as well and as healthfully as it has. I also wonder if the few individuals that have been sighted in Puget Sound are

part of the population that are naturally dispersing to explore new habitat exploits, not necessarily a sign of impending doom that they are going to take over the entire inland sea, so I would just like to temper this a little bit with some positive feedback.

Q: The experiment that you did by removing the urchins in that particular area, did you do a similar kind of experiment in habitat where otters are more likely to be found than in the eastern part of the Sound?

A: We haven't specifically, but the experiment has been done in several locations. The best example I can bring to mind is Dave Duggins' work in southeastern Alaska, in what is clearly prime sea otter habitat and his results were very different from ours. There are a number of interpretations to our results and certainly one is the possibility that that is marginal sea otter habitat. Not to suggest that there is anything wrong with it, but that it's not, for some reason good sea otter habitat and that we might not expect the same type of response that we see elsewhere. So that's important to keep in mind, that the system may have evolved under different, the presence of different predators and so on, and it may be unreasonable to expect it to behave the same way. My point is simply that, if sea otters move in that part of the strait and the upper of the Sound, that we must be very careful about generalizing this ecosystem paradigm to that specific location. We have experimental evidence now to the contrary, that perhaps that should not be done. So I hope there's a clear distinction between those two issues. But whether or not sea otters dominate the eastern strait as they do on the outer coast is very much open to discussion.

Q: I had one questions on that heron thing. There's two very small colonies that I had personal experience with up in San Juan Island, like ten herons or so. In both cases, there was a raven nest right in amongst the herons and I was wondering if there was any possibility that raven would be acting as predator control for eagles and crows relative to that, or if you know anything about that?

A: One of the students that work with me, Katina Capantas at Evergreen did some work on the interactions of red tails and eagles and also eagles and immature eagles and looked into some of the protective measures that some biologists have found in quite a few other species where there's some well-known examples of one bird that tends to notify other birds that there is a predator coming, and there's some pretty interesting examples of that, not just between birds and birds with predators, but birds and other animals. And what we found was that, in some instances, this could be the case but it was pretty much an individual situation. In one instance, there was a red tail near Nisqually that actually kept the eagles out of the Nisqually colony for a season. And that was why we didn't see any eagle predation that season. Ravens will carry off heron eggs; they can actually carry an egg in their bill without breaking it. We don't have a lot of ravens in Puget Sound, but when you go up into Canada, they've estimated that approximately 5 to15 percent of the eggs in a heron colony are stolen by ravens. Now, you figure, "How do they get in there to steal the eggs?" and you can see how effective the crows can be in a large flock either when there is a short disturbance that lifts all the birds off the nest when they are incubating and a crow can land on every nest in just a few minutes.

Q: I had a question about the otters. Off the Quileute River, there is quite an increase in sedimentation and the elders who have lived out there with the Quileute Tribe all their lives believe that this the cause for the kelp to not really return and do well in that particular area. It does better off of Second Beach and Third Beach than it does off the Quileute. So I am wondering if the sedimentation from timber harvest could be the stressor that is keeping the kelp forest from coming back and if that might be the case. I am totally unfamiliar with the San Juan area?

A: Good question, and it's an issue that the people have worked at the Olympic Coast Sanctuary and various others that have studies on the outer coast, I know that is an issue that is on their minds. As far as I know, it hasn't been resolved for the outer coast. My perception is that increase sedimentation as a result of logging activities is probably not a major issue in the San Juans… if it is, I would suggest that it is probably quite subtle and probably not very significant ecologically. But I think it's an important issue on the outer coast although to my understanding, largely unresolved. And it could certainly confound this sort of paradigm that sea otters eat sea urchins, urchins eat kelp, obviously, other factors can interfere with that process and this would be a good candidate.